

IN THE CLAIMS

Please replace any previous listing of the claims with the following replacement listing of the claims:

Replacement Listing of the Claims

1-8. (Canceled)

9. (Currently amended) A multi-domain, wide viewing angle liquid-crystal display, comprising:

- a bottom substrate having a first surface;

- a first transparent conductive layer disposed over said first surface of said bottom substrate;

- a top substrate having a second surface;

- a color filter layer disposed over said second surface of said top substrate;

- a second transparent conductive layer disposed over said color filter;

- a first dry deposited layer over said first transparent conductive layer;

- a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

- a plurality of uniformly sized transparent or nontransparent spacers distributed within said space; and

- a liquid-crystal material disposed in the space therebetween;

- wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said first and second dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods;

- wherein said dry deposited layers are exposed to at least a first ion beam

bombardment and a second ion beam bombardment to selectively align said domains in first and second directions, respectively, using a mask selected from the group consisting of: mechanical mask and photo-resist mask;

wherein a direction of said first ion beam bombardment with respect to said dry deposited layers is different than a direction of said second ion beam bombardment with respect to said dry deposited layers; and

wherein said liquid-crystal display is operable in the in-plane switching mode.

10, (Cancelled)

11 (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 40, wherein said mechanical mask method comprises: depositing a material on a substrate to form a transparent dry deposited layer;

bombarding said dry deposited layer with said first ion beam;

masking said dry deposited layer into first domain areas and second domain areas of the dry deposited layer with a mask; and

selectively bombarding said dry deposited layer with said second ion beam through said mask.

12. (Original) The multi-domain, wide viewing angle liquid-crystal display of claim 11, wherein said material is selected from the group consisting of: hydrogenated diamond-like carbon, amorphous hydrogenated silicon, silicon carbide (SiC), silicon dioxide (SiO₂), glass, silicon nitride (Si₃N₄), alumina (Al₂O₃), cerium(IV) oxide (CeO₂), tin oxide (SnO₂), zinc titanate (ZnTiO₂) and a combination thereof.

13. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 11, wherein said first ion beam bombardment and said second ion beam bombardment is provided from a source of an ion beam

selected from the group consisting of: argon, nitrogen, oxygen, and a mixture thereof.

14-36. (Canceled)

37. (Currently amended) A multi-domain, wide viewing angle liquid-crystal display, comprising:

- a bottom substrate having a first surface;

- a first transparent conductive layer disposed over said first surface of said bottom substrate;

- a top substrate having a second surface;

- a color filter layer disposed over said second surface of said top substrate;

- a second transparent conductive layer disposed over said color filter;

- a first dry deposited layer over said first transparent conductive layer;

- a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

- a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and

- a liquid-crystal material disposed in the space therebetween;

- wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said first and second dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods;

- wherein said dry deposited layers are exposed to at least a first ion beam bombardment and a second ion beam bombardment to selectively align said domains in first and second directions, respectively, using a mask selected from the group consisting of: mechanical mask and photo-resist mask;

- wherein a direction of said first ion beam bombardment with respect to said dry deposited layers is different than a direction of said second ion beam

bombardment with respect to said dry deposited layer;

wherein said multi-domain, liquid-crystal display is operable in the in-plane switching mode; and

wherein said multi-domain, liquid-crystal display has a wide viewing angle.

38 and 39. (Canceled)

40. (Cancelled)

41. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said first ion beam bombardment aligns first and second ones of the domains of at least one of said pixels in a first direction, and wherein said second ion beam bombardment aligns said first domain in a second direction.

42. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 41, wherein said second ion beam bombardment overwrites said first direction of said first domain with said second direction.

43. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 37, wherein said first ion beam bombardment aligns first and second ones of the domains of at least one of said pixels in a first direction, and wherein said second ion beam bombardment aligns said first domain in a second direction.

44. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 43, wherein said second ion beam bombardment overwrites said first direction of said first domain with said second direction.

45. (New) A multi-domain, wide viewing angle liquid-crystal display, comprising:

a bottom substrate having a first surface;
a first transparent conductive layer disposed over said first surface of said bottom substrate;
a top substrate having a second surface;
a color filter layer disposed over said second surface of said top substrate;
a second transparent conductive layer disposed over said color filter;
a first dry deposited layer over said first transparent conductive layer;
a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;
a plurality of uniformly sized transparent or nontransparent spacers distributed within said space; and
a liquid-crystal material disposed in the space therebetween;
wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains;
wherein said dry deposited layers are selectively exposed to one of ultra-violet light and ion beam bombardment to produce selected domain areas of said domains that are aligned with a first pre-tilt angle and non-selected domain areas that are non-aligned;
wherein said aligned and non-aligned domain areas are exposed to another of said ultra-violet light and ion beam bombardment to produce in said non-aligned domain areas a second pre-tilt angle different than said first pre-tilt angle: and
wherein said liquid-crystal display is operable in the in-plane switching mode.